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SENSOR CONFIGURATION FOR SUBSTANTIAL
SPACING FROM A SMALL APERTURE

ABSTRACT OF THE DISCLOSURE

The inventive sensor device includes a support structure, a sensing element mounted on the support substrate for sensing optical radiation and generating an electrical output signal in response thereto, and an encapsulant encapsulating the sensing element on the support structure. The encapsulant being configured to define a lens portion for focusing incident optical radiation onto an active surface of the sensing element, and an optical radiation collector portion surrounding the lens portion for collecting and redirecting optical radiation that is not incident the lens portion onto the active surface of the sensing element. The collector portion may be a parabolic reflector that reflects incident light by total internal reflection. The sensor device may be incorporated into an assembly including a diffuser positioned across an aperture, and/or may be incorporated into a vehicle accessory such as a rearview mirror assembly.

2025-01-01 10:00:00